REMARKS

The application was originally filed with claims 1-6. In response to a first Office Action, claims 1 and 2 were canceled and new claims 7 and 8 added. In response to a second Office Action, claim 5 was canceled. In the current response, claims 3, 4 and 6 have been canceled, claim 7 has been amended, and claims 9 and 10 have been added. Accordingly, claims 7-10 are pending and at issue.

Response to 35 U.S.C. §103 rejection

Claims 7-8 were rejected under 35 U.S.C. §103 as obvious over United States Patent 5,189,962 ("Iwamura") in view of United States Patent 4,842,818 ("Kato").

Claim 7 as amended cannot be considered obvious over *Iwamura* in view of *Kato* as the combination of these referenced fails to teach or suggests all of the claimed limitations and, as such, a *prima facie* case of obviousness has not been established.[1]

For example, a radius arm truck, as is claimed herein, is typically equipped with a current collector for collecting electric power from a third rail, it is undesirable that the position of the current collector relative to the third rail varies greatly in a vertical direction. In other words, it is undesirable to the current collector that the spring constant of the primary spring is small i.e., flexure of the spring with respect to a load is large. On the other hand, if the spring constant of the primary spring is large, the associated suspension becomes stiff, making it uncomfortable for passengers to ride in the train.

The railway vehicle defined in amended claim 7, therefore, comprises a primary spring formed by a nonlinear characteristic spring configured such that a smaller range of the flexure corresponds to a smaller range of the spring constant and a larger range of the flexure corresponds to a larger range of the spring constant. Thereby, the smaller range of the spring constant in the non-characteristic of the primary spring corresponds to, for example, a load state in a range between an empty state and a substantially fixed number passenger state (common state) of the vehicle, making it comfortable for passengers to ride in the train. In

[1] "To establish a *prima facie* case of obviousness, ... there must be some suggestion or motivation ... to modify the references or to combine reference teachings ... [, and] the prior art reference (or references when combined) must teach or suggest 'all' the claimed limitations. (Internal quotations added). *See* MPEP § 2142.

this case, the larger range of the spring constant corresponds to a load state between the substantially fixed number passenger state and the full (or more than full) passenger state of the vehicle. As a result, the flexure of the entire primary spring is reduced while improving riding comfort. Such a primary spring is desirable to the current collector.

Specifically, claim 7 as amended recites, *inter alia*, "the coil spring having a spring constant with an inflection point such that a smaller spring constant range corresponds to a smaller flexure range and a larger spring constant range corresponds to a larger flexure range, and wherein the coil spring is configured such that the smaller range of the spring constant thereof corresponds to a range from an empty state to a common load state between the empty state and full passenger state of the vehicle."

Iwamura and *Kato* alone or in combination fail to teach or suggest the claimed limitations.

Iwamura discloses an axle box suspension system having an axle spring and a resilient member, wherein movement between a truck frame and an axel is achieved by deformation of the resilient member, and *Kato* discloses a method of manufacturing tapered rods. *Iwamura* and *Kato*, however, fail to disclose a coil spring having a spring constant with an inflection point such that a smaller spring constant range corresponds to a smaller flexure range and a larger spring constant range corresponds to a larger flexure range. *Iwamura* and *Kato*, also do not disclose a coil spring that is configured such that the smaller range of the spring constant thereof corresponds to a range from an empty state to a common load state between the empty state and full passenger state of the vehicle. As a matter of fact, neither *Iwamura* or *Kato* disclose any type of relationship between the spring, the spring constant, and the passenger state of the vehicle, nor do they disclose or suggest reducing the flexure of the entire primary spring while improving riding comfort in the train.

As a result, *Iwamura* and *Kato* alone or in combination do not teach or suggest all of the claimed limitations and, accordingly, the obviousness rejection of claim 7 and its depended claims should be withdrawn.

CONCLUSION

In view of the above discussion, applicant submits that each of the presently pending claims is in immediate condition for allowance. Accordingly, the examiner is respectfully requested to pass this application to issue.

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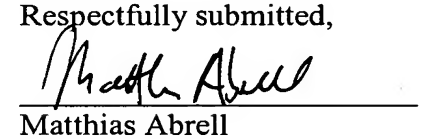
Respectfully submitted,

By: 

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